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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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GREENBLUM & BERNSTEIN, P.L.C.
1950 ROLAND CLARKE PLACE
RESTON, VA 20191

EXAMINER	
RAMIREZ, DELIA M	
ART UNIT	PAPER NUMBER
1652	

DATE MAILED: 07/14/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/869,334	ENDO ET AL.	
	Examiner	Art Unit	
	Delia M. Ramirez	1652	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *13 May 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-39* is/are pending in the application.

4a) Of the above claim(s) *1-13 and 16-20* is/are withdrawn from consideration.

5)☒ Claim(s) *14,21-24 and 38* is/are allowed.

6)☒ Claim(s) *15,25-37 and 39* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *12/28/01*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: Assignment

DETAILED ACTION

Status of the Application

Claims 1-39 are pending.

Applicant's election with traverse of Group XXIV, claims 14, 21-39, drawn in part to the polynucleotide of SEQ ID NO: 2, vectors, host cells comprising said polynucleotide, a method for producing a compound using the host cells, and a method of recombinantly producing the polypeptide encoded by the polynucleotide of SEQ ID NO: 2, in a communication filed on 5/13/2004 is acknowledged.

Applicant's traverse is on the ground(s) that the restriction is improper for not discussing the various sections of 37 CFR 1.475. In addition, Applicants state that according to 37 CFR 1.475(b)(1), claims to different categories of invention will be considered to have unity of invention if the claims are directed to a product and a process specially adapted for the manufacture of said product. Applicants submit that DNA which hybridizes with another DNA having a certain nucleotide sequence comprises a nucleotide sequence that can be considered to share a special technical feature with the DNA having the certain nucleotide sequence. Thus, according to Applicants, claims 14-16 have unity of invention. Furthermore, Applicants submit that Groups XXIV-XXVII have unity of invention since the DNAs having the nucleotide sequences of SEQ ID NO: 41, 43 and 44 are similar with each other in structure and the proteins they encode have the same activity. Applicants request reconsideration of all pending claims specially claims 14-16 and 18-39. Applicants also submit that searching all the pending claims would not impose an undue burden on the Office since the International Searching Authority has already performed a search of all pending claims.

Applicant's arguments have been fully considered but are not deemed persuasive to withdraw the restriction requirement. It is unclear to the Examiner as to where in the analysis of lack of unity, the criteria set forth in 37 CFR 1.475 was not taken into consideration. According to 37 CFR 1.475 (a), the

application shall relate to one invention only or to a group of inventions so linked as to form a single general inventive concept. The Examiner clearly indicated that the application contained groups of inventions which were not so linked as to form a single inventive concept and specifically discussed the reasons why lack of unity was present in paragraphs 3-5 of the previous Office Action. In regard to 37 CFR 1.475(b), it is noted that the Examiner included a method of use for the polynucleotide of SEQ ID NO: 2 in Group XXIV even though 37 CFR 1.475(d) states that when several products, processes of manufacture or uses are claimed, the first recited invention of the category first mentioned in the claims of the application and the first recited invention of each of the other categories related thereto will be considered as the main invention. The polynucleotide of SEQ ID NO: 2 is not the first product recited in the claims, therefore the Examiner was not required to include methods of use/manufacture, i.e. only the first product recited in the claims and a method of use/manufacture of said product are deemed to have unity of invention according to 37 CFR 1.475.

Arguments regarding 1.475(b)(1) are not deemed persuasive since a product and a method of use were already included in the elected group. However, claim 15 will be examined to the extent it represents a linking claim of Groups XXIV-XXVII. The restriction requirement among the linked inventions is subject to the nonallowance of the linking claim. Upon the allowance of the linking claim, the restriction requirement as to the linked inventions shall be withdrawn. Since the linking claim is not deemed allowable at this time, the restriction requirement among Groups XXIV-XXVII is maintained.

In regard to the burden of search, while the Examiner is not arguing that the restriction requirement is proper since searching all of the claimed inventions would impose an undue burden on the Office, it is noted that in addition to the International Search Report issued, the Examiner must conduct her own search. Searching all the inventions would require sequence, patented/non-patented literature, as well as class/subclass searches which may not be co-extensive, therefore imposing an undue burden on the Office.

The requirement is deemed proper and therefore is made FINAL.

Claims 1-13, 16-20 are withdrawn from further consideration by the Examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention. Claims 14-15 and 21-39 will be examined.

Priority

1. Acknowledgment is made of a claim for foreign priority under 35 U.S.C. 119(a)-(d) to JAPAN 11/21707 filed on 01/29/1999.

2. It is noted that SEQ ID NO: 2 was first disclosed in JAPAN 11/21707 filed on 01/29/1999.

3. This application is the US national stage of PCT/JP00/00472 filed on 01/28/2000.

Information Disclosure Statement

4. The information disclosure statement (IDS) submitted on 12/28/2001 is acknowledged. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Claim Objections

5. Claim 39 is partially directed to non-elected inventions, i.e. SEQ ID NO: 41, 43 and 44. For examination purposes, the claim will be examined to the extent it refers to the elected invention. Appropriate correction is required.

Claim Rejections - 35 USC § 112, Second Paragraph

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 15, 25-37, and 39 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

8. Claims 15, 25-36 (claim 37 dependent thereon) are indefinite in the recitation of "I-a, I-b, II-a, II-b, III-a, III-b, IV-a, IV-b", VII-a, VII-b, VIII-a, VIII-b". While these are specific designations given by Applicants to specific compounds, Applicants are requested to clearly indicate which compounds are being recited such that one of skill in the art would know what is encompassed by the claims. It is suggested that the claims be amended to recite the commonly known chemical name of each of the compounds recited or the structures corresponding to each of the compounds be indicated at least once. Correction is required.

9. Claim 15 is indefinite in the recitation of "DNA which hybridizes....under stringent conditions" because it is unclear which polynucleotide is claimed absent a statement of the conditions under which the hybridization reaction is performed. Nucleic acids which will hybridize under some hybridization conditions will not necessarily hybridize under different conditions. It is suggested that the specific experimental hybridization conditions be recited in the claim if there is adequate support for those conditions in the specification. For examination purposes, it will be assumed that the term "stringent conditions" reads "any conditions". Correction is required.

10. Claims 29-36 are indefinite in the recitation of "the process according to claim.....wherein the compound (X) is the compound (X) obtained by forming a lacton from compound Y" or "the process according to claim ....wherein the compound (X) is the compound (X) obtained by opening the lactone ring of compound (Y)" as it is unclear how the compound (X) is the same compound obtained after a modification. It is suggested that the term be amended to read "the process according to claim...wherein the compound (X) is obtained by ...." or "the process according to claim...wherein the compound (X) is a

compound obtained by.....". For examination purposes, the suggested language will be used. Correction is required.

11. Claims 25-28 (claims 29-37 dependent thereon) are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential steps, such omission amounting to a gap between the steps. See MPEP § 2172.01. The instant claims are directed to a method for producing a compound X from a compound Y, however a step is missing wherein the enzyme responsible for the conversion is contacted with the reactant Y. For examination purposes, it will be assumed that the claims recite a step indicating that the enzyme source is placed in contact with compound X. Correction is required.

12. Claims 25-28 (claims 29-36 dependent thereof) are indefinite in the recitation of "treated product of the culture" as it is unclear what the meaning of the term is within the context of the claim and the specification provides no description of the term either. The term "treated" is vague and confusing since one cannot determine what the term "treated" encompasses, i.e. what has been done on the "product of the culture". Furthermore, it is unclear what a "product of the culture" is. For examination purposes, it will be assumed that the term refers to "any fraction of the culture". Correction is required.

13. Claim 37 is indefinite in the recitation of "product of the culture of the transformant is a treated product selected from cultured cells; treated products such as dried cells, freeze-dried cells.....; and an immobilized products of cells or treated cells" for the following reasons. The term "treated product" is indefinite for the reasons already discussed above. Also, it is unclear if the products recited immediately after the term "such" are further limiting the treated product. In addition, it is unclear as to the meaning of the term "immobilized products of cells or treated cells". For examination purposes, it will be assumed that the claim recites "the process according to claim 25, wherein the transformants are dried cells, freeze-dried cells, cells treated with surfactant, cells treated with an enzyme, cells treated by sonication, cells treated by mechanical milling, cells treated with a solvent, a protein fraction of a cell, or immobilized cells". Correction is required.

14. Claim 39 is indefinite in the recitation of "an oligonucleotide corresponding to a sequence consisting of 5 to 60 continuous nucleotides in a nucleotide sequence selected from...; or an oligonucleotide corresponding to a complementary sequence to said oligonucleotide" for the following reasons. The term "an oligonucleotide corresponding to a sequence consisting of 5 to 60 continuous nucleotides" is unclear as one cannot determine if the oligonucleotide comprises 5-60 contiguous nucleotides of the sequence of SEQ ID NO: 2 or if the oligonucleotide consists of 5-60 contiguous nucleotides of the sequence of SEQ ID NO: 2. Also, the term "oligonucleotide corresponding to a complementary sequence to said oligonucleotide" is unclear as one cannot determine if the oligonucleotide being referred to comprises a complementary sequence of the oligonucleotide indicated above or if it consists of a complement of the oligonucleotide indicated above. In addition, the term "complementary" renders the claim indefinite because it is unclear which "complements" are encompassed by the claims. Fragments of any size which are complementary to the polynucleotides claimed can be considered as "complements". Applicants have not define the term "complement", as it relates to size, in the specification either. If Applicant's intended complementary sequence is the entire complementary sequence, the term "complementary" should be replaced with "completely complementary". For examination purposes, it will be assumed that the claim reads "an oligonucleotide selected from the group consisting of: (a) an oligonucleotide consisting of 5-60 contiguous nucleotides of the polynucleotide of SEQ ID NO: 2, and (b) the complete complement of the oligonucleotide of (a)". Correction is required.

Claim Rejections - 35 USC § 112, First Paragraph

15. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

16. Claim 15 and 25-36 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claim 15 is directed to a genus of polynucleotides encoding a protein which has the activity of producing compound II-a or compound II-b from compound I-a or compound I-b, wherein the polynucleotides hybridize under any conditions to the polynucleotide of SEQ ID NO: 2. Claims 25-36 are directed to a process for producing specific compound with any fraction of a culture as an enzyme source. While the specification discloses the structure of the polynucleotide of SEQ ID NO: 2 as well as that of other polynucleotides, the specification fails to disclose the structures of all polynucleotides which can hybridize to the polynucleotide of SEQ ID NO: 2 under any conditions and encode a protein with the desired activity. In addition, the specification fails to disclose the structural elements in the polynucleotide of SEQ ID NO: 2 which must be present in any polynucleotide which can hybridize to the polynucleotide of SEQ ID NO: 2 under any conditions such that they encode a protein with the desired activity. Furthermore, the specification fails to disclose a method to produce the specific compounds recited wherein any fraction of the culture can be used as an enzyme source.

The genus of polynucleotides encompassed by the claim is an extremely large structurally variable genus. While a sufficient written description of a genus of DNAs may be achieved by a recitation of a representative number of DNAs defined by nucleotide sequence or a recitation of structural features common to members of the genus, which features constitute a substantial portion of the genus, in the instant case, the recited structural feature as interpreted, "hybridizes with a DNA having the nucleotide sequence set forth in SEQ ID NO: 2 under any conditions" does not constitute a substantial portion of the genus as the remainder of any nucleic acid comprising said structural elements is completely undefined and the specification does not define the remaining structural features for members of the genus to be

selected. Many structurally unrelated polynucleotides are encompassed by these claims. The specification only discloses a few species of the claimed genus of polynucleotides and the enzymatic production of the recited compounds, which is insufficient to put one of ordinary skill in the art in possession of all attributes and features of the claimed invention. Therefore, one skilled in the art cannot reasonably conclude that the applicant had possession of the claimed invention at the time the instant application was filed.

17. Claims 15 and 25-36 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for a polynucleotide comprising SEQ ID NO: 2 and a method for producing the specific compounds recited with the polypeptide of SEQ ID NO: 1 or a fraction of a culture containing the polypeptide of SEQ ID NO: 1, does not reasonably provide enablement for (1) polynucleotides which hybridize under any conditions to the polynucleotide of SEQ ID NO: 2 and encode a protein which have the activity of producing a specific compound from another, or (2) a process for producing specific compounds as recited wherein any fraction of the culture is used as an enzyme source. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention commensurate in scope with these claims.

The criteria for undue experimentation, summarized in *re Wands*, 8, USPQ2nd 1400 (Fed. Cir. 1988) are: 1) quantity of experimentation necessary, 2) the amount of direction or guidance presented, 3) the presence and absence of working examples, 4) the nature of the invention, 5) the state of prior art, 6) the relative skill of those in the art, 7) the predictability or unpredictability of the art, and 8) the breath of the claims.

The scope of the claim, as described above, is not commensurate with the enablement provided in view of the large number of polynucleotides of unknown structure encompassed by the claim and the lack of information as to how to practice the claimed method with any fraction of a culture as an enzyme

source. As indicated previously, while the specification discloses the structure of the polynucleotide of SEQ ID NO: 2 as well as other polynucleotides, the specification is silent in regard to how to produce the recited compounds any fraction of a culture as an enzyme source as well as the structures of other polynucleotides which hybridize under any conditions to the polynucleotide of SEQ ID NO: 2 and encode a protein with the desired activity. Furthermore, the specification is silent in regard to the structural elements required in any polynucleotide which hybridizes under any conditions to the polynucleotide of SEQ ID NO: 2 such that it encodes a protein with the desired activity. While one could argue that some of the claimed polynucleotides can be isolated applying structural homology using the structures disclosed in the specification and those known in the art, it is noted that the art clearly teaches that even high structural homology does not always result in functional homology.

Witkowski et al. (Biochemistry 38:11643-11650, 1999) teaches that one amino acid substitution transforms a β-ketoacyl synthase into a malonyl decarboxylase and completely eliminates β-ketoacyl synthase activity. Seffernick et al. (J. Bacteriol. 183(8):2405-2410, 2001) teaches that two naturally occurring Pseudomonas enzymes having 98% amino acid sequence identity catalyze two different reactions: deamination and dehalogenation, therefore having different function. Since structure determines function, one of skill in the art would require some knowledge or guidance as to how structure correlates with function to isolate those polynucleotides encoding polypeptides having the desired activity. Therefore, due to the lack of relevant examples, the amount of information provided, the lack of knowledge about the critical structural elements required to obtain the desired function, the lack of knowledge regarding producing the recited compounds with any fraction of the culture as an enzyme source, and the unpredictability of the prior art in regard to function based on homology, one of ordinary skill in the art would have to go through the burden of undue experimentation in order to (1) screen and isolate those polynucleotides, as encompassed by the claim, which encode proteins having the desired function, and (2) practice the claimed process with fractions of the culture lacking the desired enzymatic

activity. Thus, Applicant has not provided sufficient guidance to enable one of ordinary skill in the art to make and use the invention in a manner reasonably correlated with the scope of the claims.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless -
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

18. Claim 15 is rejected under 35 U.S.C. 102(b) as being anticipated by Rivolta et al. (Microbiology 144:877-884, 1998; cited in the IDS; GenEMBL accession number AF015825, May 1998). Rivolta et al. teaches a polypeptide which is 100% identical to the polypeptide of SEQ ID NO: 1 and the polynucleotide encoding said polypeptide. See attached alignments provided for visualization purposes. The polynucleotide of Rivolta et al. is identical to the polynucleotide of SEQ ID NO: 2 except for one mismatch corresponding to nucleotide 462 of SEQ ID NO: 2. According to the specification (page 41, second paragraph), the polypeptide of SEQ ID NO: 1 is encoded by the polynucleotide of SEQ ID NO: 2. Thus the polynucleotide of Rivolta et al. encodes a polypeptide with the same activity as that of the polypeptide of SEQ ID NO: 1. Claim 15 is directed to a polynucleotide which hybridizes under any conditions to the polynucleotide of SEQ ID NO: 2 wherein the polynucleotide encodes a polypeptide having the activity of producing compound II-a or compound II-b from compound I-a or compound I-b. The specification discloses that the polypeptide of SEQ ID NO: 1 has the activity of producing the recited compounds, therefore the teachings of Rivolta et al. anticipate the claim as written.

Claim Rejections - 35 USC § 103

19. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

20. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

21. Claim 39 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rivolta et al. (Microbiology 144:877-884, 1998; cited in the IDS; GenEMBL accession number AF015825, May 1998). The teachings of Rivolta et al. have been discussed above. Rivolta et al. teaches an oligonucleotide which comprises the first 3 nucleotides of SEQ ID NO: 2 (Table 1, ORF YjiB). Rivolta et al. does not teach an oligonucleotide consisting of 5-60 bases of the polynucleotide of SEQ ID NO: 2.

Claim 39 is directed to an oligonucleotide consisting of 5-60 bases of the polynucleotide of SEQ ID NO: 2, and the complete complement of said oligonucleotide.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to make an oligonucleotide consisting of 5-60 bases of the polynucleotide of Rivolta et al. which are shared by the polynucleotide of SEQ ID NO: 2. A person of ordinary skill in the art is motivated to construct such an oligonucleotide for use as a probe. For example, one would be motivated to make a probe 5-60 bases long which include the start codon of the polynucleotide of Rivolta et al. also shared by

the polynucleotide of SEQ ID NO: 1 . One of ordinary skill in the art has a reasonable expectation of success at making the oligonucleotide since construction of oligonucleotides is well known and widely used in the art. Therefore, the invention as a whole would have been prima facie obvious to a person of ordinary skill in the art at the time the invention was made.

Allowable Subject Matter

22. Claims 14, 21-24 and 38 appear to be allowable over the prior art of record.

Conclusion

23. Certain papers related to this application may be submitted to Art Unit 1652 by facsimile transmission. The FAX number is (703) 872-9306. The faxing of such papers must conform with the notices published in the Official Gazette, 1156 OG 61 (November 16, 1993) and 1157 OG 94 (December 28, 1993) (see 37 CFR 1.6(d)). NOTE: If Applicant submits a paper by FAX, the original copy should be retained by Applicant or Applicant's representative. NO DUPLICATE COPIES SHOULD BE SUBMITTED, so as to avoid the processing of duplicate papers in the Office.

24. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PMR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

25. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Delia M. Ramirez whose telephone number is (571) 272-0938. The examiner can normally be reached on Monday-Friday from 8:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dr. Ponnathapura Achutamurthy can be reached on (571) 272-0928. Any inquiry of a general nature or

relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1234.

Delia M. Ramirez, Ph.D.
Patent Examiner
Art Unit 1652

DR
July 7, 2004

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